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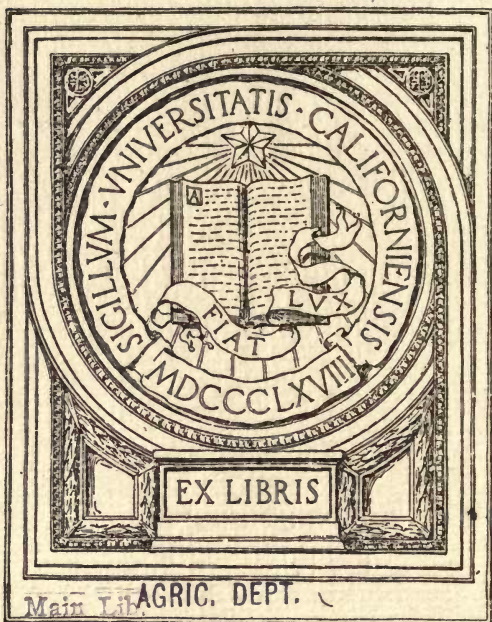
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FERTILIZING PEACHES

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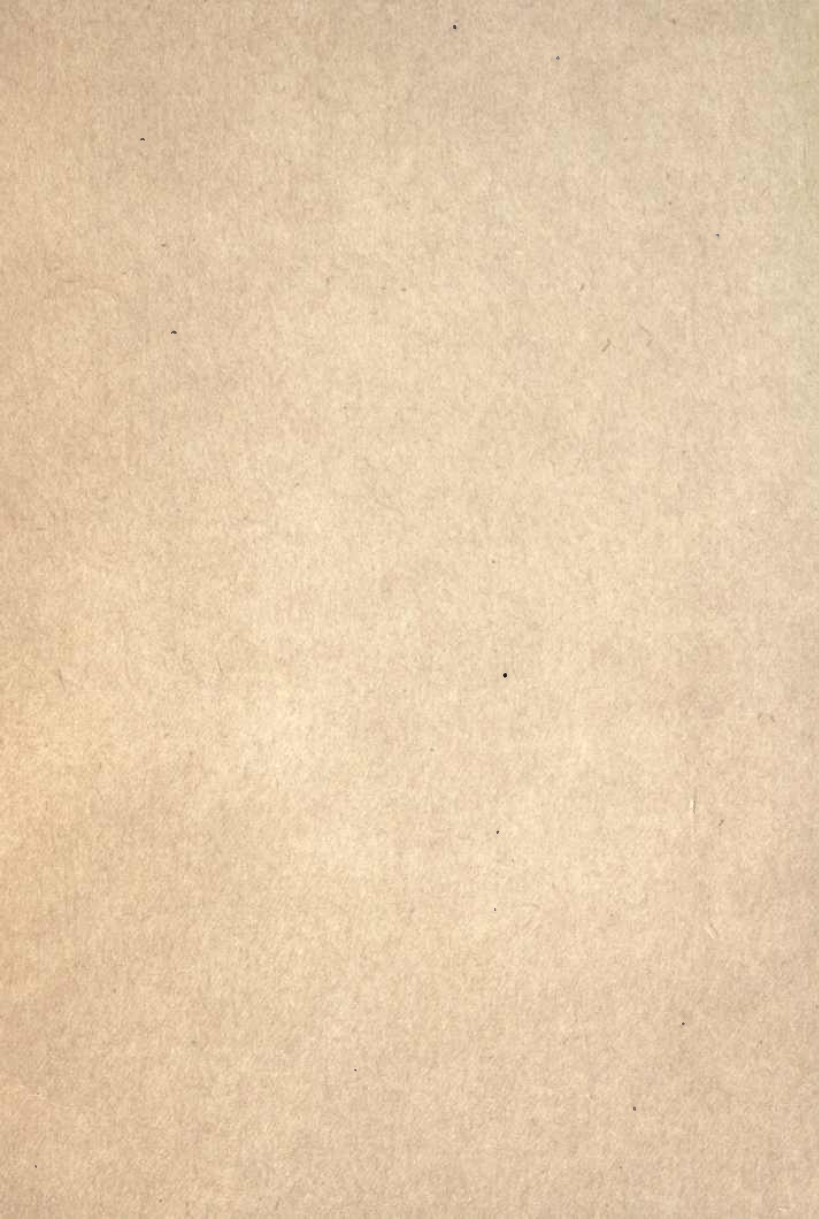
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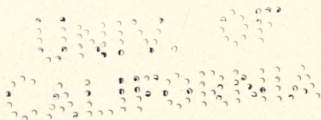


Fertilizing Peaches



FERTILIZING PEACHES

Potash in Its Relation to Peach Growing



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TO THE
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Potash in Its Relation to Peach Growing



The peach industry is one of great economic importance throughout certain sections of the United States and provides one of the most luscious of all fruits. The peach is one of the most difficult of all fruits to cultivate and manage successfully. This is because it is more sensitive to a greater variety of conditions than other tree fruits, and to the fact that it ordinarily gives its best results on soils which are often regarded as poorly adapted to general cultivation. The very difficulties met with in the production of the peach on a successful commercial scale make its growth highly profitable under skillful management in those locations to which it is naturally well adapted. It is a fruit which must be grown as nearly to perfection as possible in order to command the highest price on the market. To peach specialists, therefore, all knowledge pertaining to the fertilization of this crop and the influence which specialized plant foods may exert on its quality and appearance is of the greatest importance, from both a practical and an economic point of view. While orchard crops through the

medium of their extensive root system are capable of gathering their food from a wide extent of soil at varying depths, they must have a continuous supply of rather quickly available plant foods if the trees are to continue to yield profitable crops throughout a series of years.

Plant Food Requirements of Peaches

According to recent statistics 100 peach trees are the average planted per acre. When the trees have come into bearing and yield as much as 400 bushels per acre, the fruit would remove* only 22.2 pounds of nitrogen, 11 pounds of phosphoric acid, and 45.5 pounds of potash. The leaves estimated to weigh about 5,300 pounds would remove 47.7 pounds of nitrogen, 8 pounds of phosphoric acid, and 42 pounds of potash. The new wood calculated to weigh about 1,500 pounds would remove 8.6 pounds of nitrogen, 2 pounds of phosphoric acid, and 2.5 pounds of potash. The total amount of plant food removed from an acre peach orchard planted on the basis indicated above and in full bearing would be approximately 78.5 pounds of nitrogen, 21 pounds of phosphoric acid, and 90 pounds of potash.

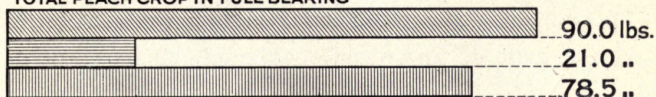
A further examination of the analysis of the peach will doubtless furnish information of unusual interest. The fruit pulp contains .08 per cent of nitrogen, .04 per cent of phosphoric acid, and .2 per cent of potash. The stones con-

* Van Slyke — Fertilizers and Crops.

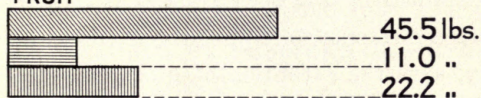
Plant Food Removed per Acre by a 400 Bushel Peach Crop

(VAN SLYKE)

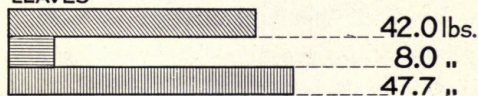
TOTAL PEACH CROP IN FULL BEARING



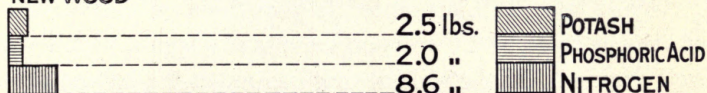
FRUIT



LEAVES



NEW WOOD



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tain .27 per cent of nitrogen, .07 per cent of phosphoric acid and .08 per cent of potash. The leaves contain .9 per cent of nitrogen, .15 per cent of phosphoric acid and .6 per cent of potash. The new wood contains .43 per cent of nitrogen, .11 per cent of phosphoric acid and .22 per cent of potash.

Thus it appears that the trees make a considerable demand on the three essential elements of plant food which the farmer is ordinarily called upon to supply to his soil. Of course, it is understood by the orchardist that it takes something like fourteen elements to supply the needs of his trees, but ordinarily, with the exception of nitrogen, phosphoric acid, and potash, and sometimes lime, all of the other ten or eleven are found in the soil in sufficient abundance to be disregarded from a practical point of view. The analyses quoted above show that peaches require a much larger per cent of potash for their perfection than is usually considered necessary, and while the phosphoric acid is also shown to be essential, the smaller amount required leads us to conclude that the soil will more often supply this mineral constituent in sufficient quantities than it will the potash.

Soils Adapted to the Peach

While the peach is adapted to growth on quite a variety of soils, it gives best results on loose sandy loams, which are well drained. If the soils are rich so much the better, pro-

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viding they do not stimulate an excessive wood growth at the expense of the fruit yield. Compact and heavy clays are not satisfactory soils as a rule on which to grow peaches. Where soils are too rich, that is, contain an over abundance of nitrogen in proportion to the supply of the mineral elements, phosphoric acid and potash, the tendency is to prolong the growth too late into the fall, resulting in the wood and buds not maturing properly, and therefore rendering them more susceptible to winter killing.

Influence of Essential Elements on Plants

The fact that the peach produces more freely than most other fruit crops is clear evidence that it is a heavy consumer of plant food when compared on the acre basis. It has been estimated, for instance, that peaches require about five times more nitrogen, phosphoric acid, and potash than apples, and six times as much lime and two or three times as much of each of the chief constituents as pears. It would appear, therefore, that, owing to the thinner and poorer soils on which peaches are usually planted, generous feeding with commercial plant food becomes more essential than with tree fruits grown on richer soils. In this connection it is well to consider some of the special factors entering into the fertilization of the peach.

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Nitrogen

It is well known that nitrogen is chiefly concerned in producing growth. It effects the color of foliage, the amount of growth made, the time and character of flowering, the date of maturity of the crop, the general health and vigor of the tree, and the composition of the fruit. Enough available nitrogen should be present in the soil to preserve the characteristic green color of healthy plants, to promote a sufficiently vigorous growth to renew the wood from year to year, and to insure the proper development of the flower buds and maturity of the fruit. For the reasons enumerated, if used in excess, the influence of nitrogenous fertilizers will become injurious rather than beneficial. Where it is necessary to use nitrogen it should be applied early in the spring and may be derived either from organic or inorganic sources, as determined by the economy with which it can be secured and supplied. Nitrogenous fertilizers should never be applied late in the summer to a peach orchard because of its tendency to prolong growth and thus retard the maturing of the wood and the ripening of the fruit. Where leguminous cover crops are turned under as green manure, little or no additional nitrogen is required and by this means also a valuable supply of humus will be added to the soil.

Phosphoric Acid

The influence of phosphoric acid as a plant food is often very marked in the peach orchard, especially in the presence of an abundance of the other essential plant foods, and although required to a lesser extent in the composition of the plant and fruit than either potash or nitrogen, it is by no means of lesser vital importance. Phosphoric acid is mainly concerned in the germination of the seeds, hastening the maturity of the fruit and, of course, is concerned in the production of protoplasm, without which there can be no plant life. The tendency of this element in affecting the life activities of the tree is shown by the increase in the vigor of the tree growth itself following an application of phosphatic fertilizers, but the color of the foliage is not affected by a deficiency of phosphoric acid as in the case of nitrogen and potash. Phosphoric acid is therefore a very essential and important mineral element, but since it is not required in such large amounts by peaches as potash, it can be supplied comparatively cheaply and easily on that account.

Available phosphoric acid favors the rapid development of the young seedlings by promoting the growth of the root system, thus giving the young trees a good start. This function is of great importance in the establishment of the young trees in the soil under conditions favorable to their continued development.

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Phosphoric acid favors the early maturity of the trees and, together with potash, forces them to come into bearing at an earlier date. Orchard experiments have demonstrated that a year or more of difference in the maturity and bearing period of fruit trees can be brought about by a generous application of soluble phosphoric acid in combination with potash, other conditions being uniform.

Plants do not come into early maturity and do not produce seeds and fruit unless amply supplied with phosphoric acid. The ripening effect of phosphoric acid is just the reverse of that of available nitrogen, which, when too abundantly supplied, prolongs the season of growth and retards the process of maturity.

Available phosphoric acid in connection with potash, generously used, assists in increasing the proportion of fruit to wood growth, which action is again the reverse of the effect produced by nitrogen.

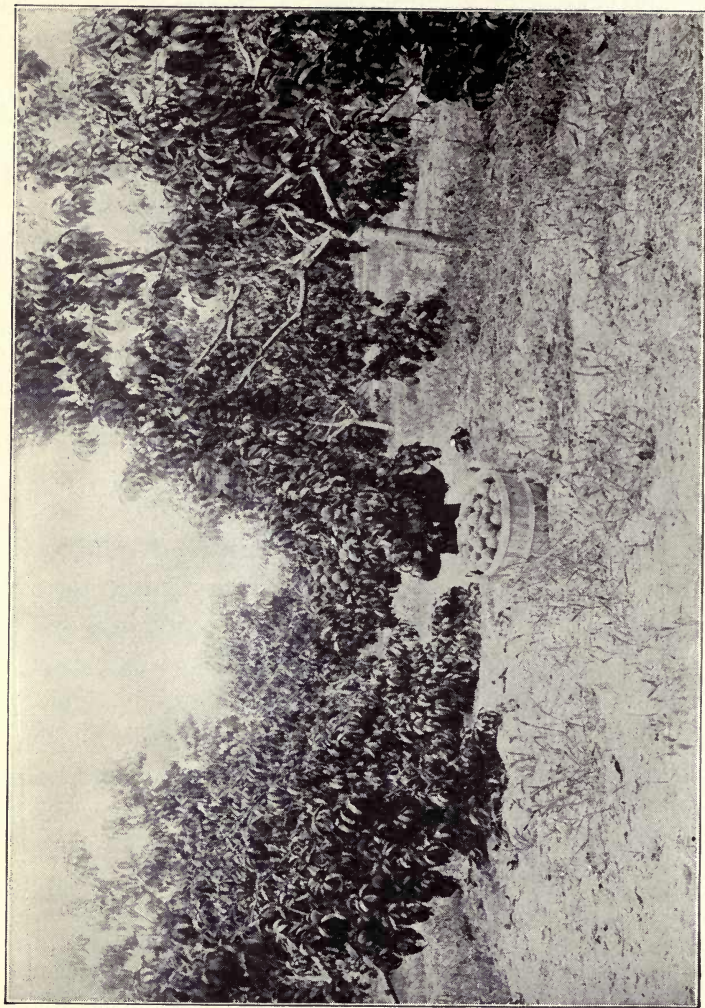
Potash Potash is chiefly concerned in the formation of carbohydrates, promotes the growth of stems and leaves, influences the development of the fleshy parts of the fruit, affects the life activities of the plant cells, is concerned in the elaboration of protoplasm, exerts a wholesome effect on the production of plant acid thereby improving the flavor, and assists plants to withstand the inroads of

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diseases. Potash is therefore of paramount importance to the peach grower because the soils on which best results are secured from this crop, are usually of a type most markedly deficient in potash, and in the absence of this element in a quickly soluble form many ills are likely to afflict his orchard, which might otherwise be avoided.

Owing to the important function of potash it is well to consider in greater detail the action of this element as related to the development and production of the peach. In the absence of potash the process of assimilation by which the elementary constituents, carbon, hydrogen, and oxygen, are transformed into carbohydrates ceases. Examples of carbohydrates are starch, sugar, and cellulose. Potash is not only concerned in the formation of these compounds, but it is also concerned in the transfer of starch from one part of the plant to another. Starch is chiefly formed in the leaves of the plant and is then insoluble. To change it into the various soluble compounds, which enable them to pass through the cell walls and be carried into the fruit or seed, is one of the important functions performed by potash. Therefore, if potash is deficient the growth of the tree is seriously retarded and its ability to produce fruit materially lessened.

Potash compounds are important in plant nutrition because they exert a marked effect upon the development of



Peach Orchard on Light, Sandy Soil Fertilized with 250 Lbs. Blood, 750 Lbs. Acid Phosphate and 250 Lbs. Sulfate of Potash Per Acre. (Note Limb Heavily Weighted Down with Choice Peaches.)

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the leaves and stems. If there is a deficiency of available potash in the soil, the woody parts of the plant become weak and brittle. It is known, of course, that many peach trees break down because they are unable to bear the load of fruit, even though judicious thinning may have been practiced. Of course, trees of all description often overbear and no application of potash or other commercial plant food could prevent injuries to the limbs through breaking, especially in a heavy gale of wind, such as often sweep over the orchard near the time at which the fruit matures. It has been demonstrated quite conclusively, however, that where potash has been liberally used the trees are much stronger and can withstand the strain to which they may be subjected by the action of violent winds much more successfully than those trees which have not been so fertilized.

It is believed that potash compounds are a requisite to the proper development of the fleshy portion of the fruit, which is the crowning glory of the peach. Therefore, the importance of the liberal use of this element cannot be too strongly emphasized in connection with peach production.

Potash has an active association with phosphoric acid in the formation of protoplasm in the plant cells, which constitute the units, through the medium of which is generated the life activities of the plant. Similarly potash is

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intimately associated in the production of those plant juices which are rather sour and which tend to give a high flavor and superior quality to such fruits as the peach.

Many plants which are attacked with various fungous diseases are able to withstand the ravages of these diseases more effectively when amply supplied with potash. It is reasonable to suppose that if this is true of grasses and other crops it will also apply in an equal degree to the peach, which is troubled, as every experienced grower knows, with many diseases of this character.

This presents in a rather succinct form, some of the influences which potash is known to exert on the life activities of such crops as the peach. It is evident that everyone concerned in their cultivation should inform himself fully relative to these matters, for it is quite likely that in the absence of a plentiful supply of available potash the results secured from the orchard will be unsatisfactory, whereas an intelligent and liberal application of this element will overcome any deficiency which may naturally exist and insure profitable returns from the orchard through a long period of years.

Results of Fertilizer Experiments with Peaches

While the deductions of scientific men and the information gleaned from the experiences of others are always important to consider, it is well in making statements, such

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as the above, to be in position to substantiate them through the actual experience of the man who has been growing peaches and has demonstrated to his own satisfaction that applications of commercial plant food are justified by the results secured in the way of increased yield and improved quality of product. To this end certain experiments were undertaken by Mr. C. E. Bassett, of Fennville, Michigan, who operates a sixty-acre fruit farm of which thirty acres are devoted to peaches. The land is sandy in character but of a type excellently adapted for the cultivation of peaches and other fruits provided it is well managed and properly fertilized.

In this test seven plats of one-quarter acre each were used and the work of applying the fertilizers and harvesting the crop was carried out with discrimination and care throughout a series of years. The season of 1910, by no means an ideal one, was characterized by an early, dry, warm spring which eventually proved, however, to be a late spring during which much rain fell and was followed by a dry and backward summer. The results secured during this year which are described in the following pages may be regarded as fairly typical of what can be expected under similar conditions in the mid-western peach belt. The data relative to the experiment carried out by Mr. Bassett have been summarized very carefully in the accompanying table:

Experiment with Peaches by C. E. Bassett — Fennville, Mich.

Plat No.	Fertilizer per Acre in Pounds	Yield per plat Bu.	No. Trees Bear- ing	Yield per Tree Bu.	Yield per Acre 108 Trees Bu.	Increase over Un- fertilized Plat. Bu.	Value Crop per acre \$1.65 per Bu. \$	Value Crop In- crease over Un- fertilized Plat. \$	Cost of Ferti- lizer \$	Net Value In- crease over Cost of Ferti- lizer \$
1 (O)	No Fertilizer	58.75	19	3.09	333.72	550.64	550.64			
2 (KP)	200 Sulfate of Potash 500 Acid Phosphate	66.25	21	3.15	340.20	8.10	561.33	13.36	9.65	3.71
3 (KN)	200 Sulfate of Potash 240 Blood	64.25	20	3.21	346.68	14.58	572.02	24.05	12.60	11.45
4 (PN)	500 Acid Phosphate 240 Blood	66.66	19	3.51	379.08	46.98	625.48	77.51	11.45	66.06
5 (KPN)	200 Sulfate of Potash 500 Acid Phosphate 240 Blood	72.5	15	4.83	521.64	189.54	860.71	312.74	16.85	295.89
6 (KPNL)	200 Sulfate of Potash 500 Acid Phosphate 240 Blood	74.5	18	4.14	447.12	115.02	737.75	189.78	24.85	164.93
7 (O)	2000 Air slacked Lime No Fertilizer	61.25	20	3.06	330.48		545.29			
Average (O) Plats					332.1		547.97			

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The physical examination of the trees under test revealed the following interesting facts. On the unfertilized plat the trees seemed to break down much more easily than on the fertilized plats, especially on those plats receiving a complete fertilizer with a high per cent of potash. This is in accordance with the experience of other growers and in line with the suggestions made herein relative to the action of potash on the hardness and strength of wood. It was especially noticeable that the foliage on plats 5 and 6 was much better than on the plats to which no fertilizer was applied. The year 1910 would be regarded as a poor year for fruit, yet the fruit obtained from the fertilized plats was in much better condition for shipping than that from the other plats. The fertilized trees were in much better condition to enter the winter and the fruit was also much larger on all these plats than in previous years.

In this experiment the fertilizer was applied at the rate of 1,000 pounds per acre, and was used on the basis of 3 per cent of nitrogen, 7 per cent of available phosphoric acid, and 10 per cent of potash. The materials from which it was prepared were dried blood, acid phosphate, and sulfate of potash. On plat 6 it will be observed that lime was applied. The lime used was in the form of air slacked lime and cost approximately \$8.00 per ton. Each plat consisted of two rows containing fourteen trees each or twenty-eight

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trees in all. But as a matter of fact, the plats did not contain a uniform number of bearing trees. On one or two plats there were dead trees; and on some there were young trees not in bearing. The data have been figured out, however, on the basis of the actual number of trees per plat in bearing, so that the results from the different plats are perfectly fair and comparable with each other.

It will be observed that on the first plat no fertilizer was used; on the second plat,—potash and phosphoric acid; on the third plat,—potash and nitrogen; on the fourth plat,—phosphoric acid and nitrogen; on the fifth plat,—potash, phosphoric acid and nitrogen; on the sixth plat,—potash, phosphoric acid, nitrogen and lime; and on the seventh plat,—nothing. The fertilizer was applied in the following amounts per acre: Blood 240 pounds, Acid Phosphate 500 pounds, and Sulfate of Potash 200 pounds. Lime was used on plat 6 at the rate of one ton per acre. The cost of the heaviest application, exclusive of lime, was \$16.85. Where the lime was applied on plat 6, the cost of the fertilizer became \$24.85. The table shows the yield per plat in bushels, the number of trees bearing, the yield per tree in bushels, the yield per acre with 108 bearing trees, the increase over the unfertilized plat in bushels, the value of the crop at \$1.65* per bushel for the peaches, the value of the crop increase over no fertilizer, the cost of the

*The excellent price obtained by Mr. Bassett was due to the shortage in the Michigan peach crop in 1910.

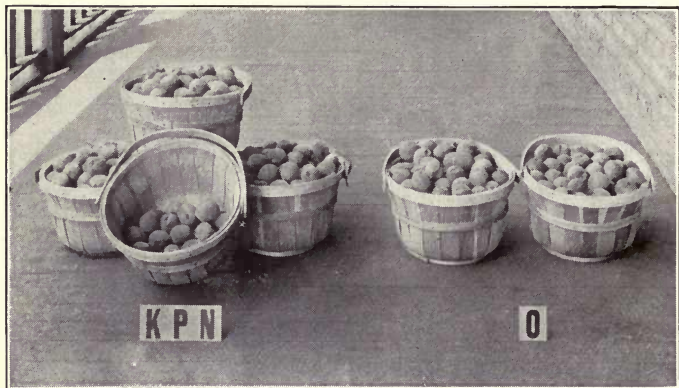
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fertilizer, and the net value of the increase over the cost of the fertilizer.

To discuss the table in detail is neither wise nor desirable, but it will well reward careful study and consideration on the part of all interested in the cultivation of peaches, and in fact, a study of these figures in association with a scratch pad will do more to inform the grower relative to the various fertilizer formulas in increasing the yield and the profits per acre from a peach orchard than anything else.

It is noteworthy that the application of fertilizer, regardless of its combination, increased the yield over no fertilizer in every instance. The most noticeable increase in yield, however, was secured on the plats to which a complete fertilizer and a complete fertilizer with lime were applied. The average yield per tree on plat 5 was 4.83 bushels; on plat 6, 4.14 bushels. It does not appear from these results that the lime was beneficial on this soil, and as it cost so much more in proportion than the balance of the fertilizer, it naturally reduced the profit per acre quite markedly. It will be noted that where a complete fertilizer was used on plats 5 and 6 that the yield per acre of 108 trees was at the rate of 521.64 bushels and 447.12 bushels respectively. This represented an increase of 189.54 bushels for plat 5, a complete fertilizer, and 115.02 bushels for

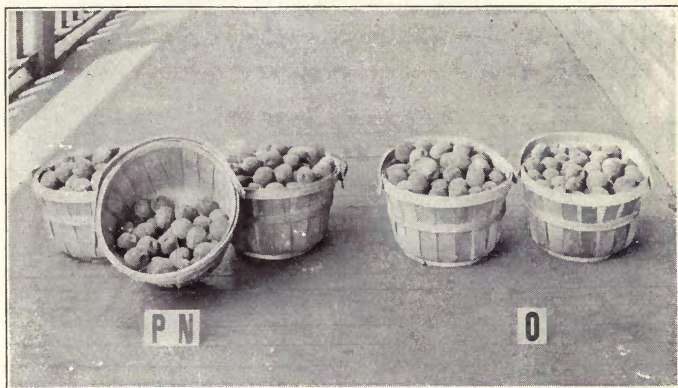
FERTILIZING PEACHES



Comparative Yield Per Acre of Peaches Receiving Complete Fertilizer (10% Potash) and Unfertilized Peaches

plat 6, a complete fertilizer with lime. On the basis of acre production the value of the crop from plat 5 at \$1.65 per bushel would be \$860.71, and from plat 6, \$737.75. Contrast this with the average value of the no-fertilizer plats, which was \$547.97. This leaves from \$200.00 to \$300.00 profit to the peach grower above the cost of commercial plant food. The actual net return shown by this experiment over no-fertilizer plats in the case of plat 5, which received potash, phosphoric acid, and nitrogen, is \$295.89; in the case of plat 6 where lime was used in addition to the above formula, \$164.93. Surely these facts are sufficiently striking to convince the peach grower of the

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Comparative Yield Per Acre of Peaches Receiving an Incomplete Fertilizer
(without Potash) and Unfertilized Peaches

desirability of making liberal applications of a well balanced fertilizer to his trees on all soils of a sandy or semi-sandy character, and which are on that account quite likely to be deficient in a quickly available supply of potash.

Application of Fertilizers

No hard and fast rules can be given as to the exact amount and composition of fertilizers to apply to the peach orchard, as that will depend largely upon the character of the soil, climatic conditions, and the age, size, and fruit yielding capacity of the trees. For these reasons it becomes almost necessary for the orchardist to experiment



Photograph Shows How and Where to Apply Fertilizer to a Peach Tree

for himself in order to determine the plant food requirements of his trees. An analysis of the soil, while of some value as an index to the total plant food supply, may give the orchardist a false idea of the richness of his soil, for it must be remembered that the plant food elements may be in a partly or wholly insoluble condition, and, therefore, unavailable as an immediate source of nourishment to the trees.

Where and When to Apply Fertilizers

Every fruit grower knows that the roots absorb the plant food used in the process of tree growth; it, therefore, follows that fertilizers should be applied in the vicinity of the roots, as indicated in the accompanying illustration. The fertilizer should be scattered evenly over the ground and well worked into the soil with a rake, harrow, or other form of tooth cultivator that will mix it with the surface layer of soil to a depth of at least three or four inches.

The time to apply fertilizers to deciduous trees, such as the peach, is before they commence to bloom. Stable manure and all slowly available sources of plant food should be spaded or plowed in during the late fall or early winter. The more readily soluble fertilizers should be evenly distributed as early as possible in the spring. Where the soils are heavy, fertilizers should be applied deeply, but

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with light soils surface applications may be made as the spring rains will carry the nourishing properties down to the roots. At the same time, however, light cultivation is advantageous just after distribution. Nitrogenous fertilizer may be partially or wholly dispensed with when a heavy leguminous cover crop has been previously turned under. Where the young orchard is planted on a soil of sandy character, a fertilizer mixture similar to that used by Mr. Bassett should give profitable returns.

For sandy soils containing an average amount of humus, —in which component Mr. Bassett's soil is somewhat lacking—the following recommendations are made:

<i>For growing trees:</i>	Nitrogen	3 %.
	Potash	8 %.
	Phosphoric Acid	8 %.

The following materials will make a fertilizer with the above analysis:

500 lbs.	Blood	12 %.
1150 lbs.	Acid Phosphate	14 % available.
335 lbs.	Sulfate of Potash	48 %.
15 lbs.	Filler.*	
<hr/>		
2000 lbs.		

<i>For bearing trees:</i>	Nitrogen	2 %.
	Phosphoric Acid	7 %.
	Potash	10 %.

* The filler may be added if desired but is unnecessary as the mixture contains the equivalent in plant food of 1 ton of fertilizer.

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The following materials will make a fertilizer with the foregoing analysis:

335 lbs.	Blood	12 %.
1000 lbs.	Acid Phosphate	14 % available.
420 lbs.	Sulphate of Potash	48 %.
245 lbs.	Filler.*	
2000 lbs.		

Fertilizers should, of course, be mixed with a considerable volume of soil and not brought directly into contact with the roots of the young tree. From 2 to 3 pounds of a mixture with the formula mentioned for growing trees may be used with advantage when applied in a ring around the tree at a distance of two or three feet, but if the tree is not making a sufficiently vigorous growth an additional fertilizer application of $\frac{1}{2}$ pound of nitrate of soda per tree, to stimulate growth, may be advantageously applied. A vigorous growth is much to be desired the first two years in order to secure the foundation for a crop of fruit as soon as possible. Experienced peach growers know that bearing trees can be supplied with too much nitrogen for best results, but this should not lead one to make the mistake of not supplying a sufficient amount of this element to young trees during the first two years after setting. If the growth is rapid during the second summer it can be controlled and trained into desirable form by summer pruning; while if the trees make a slow growth it will be necessary

*The filler may be added if desired but is unnecessary as the mixture contains the equivalent in plant food of 1 ton of fertilizer.

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to wait longer for the first good crop. The dangerous effect of using any one element of fertilizer only is most apparent in the excessive use of nitrogen. Phosphoric acid and potash are more readily retained in the soil and a reasonable excess of either or both of these elements will do no harm. It will merely tend to correct any ill effects of too much nitrogen.

As the trees grow older and larger and come into bearing, fertilizers should be increased in amount, say 8, 10, and 12 pounds per tree, to be put on in a circle of 5 to 10 feet in diameter around the tree.

The attention of the reader is respectfully directed to the illustrations showing the comparative yields of plats 1, 4, and 5, and it is to be hoped that he will examine them carefully and be convinced of the great benefits following the application of a well balanced complete fertilizer to a peach orchard which had been considered fairly productive until these tests were made. The facts set forth show the essential relations of potash fertilization to the securing of largely increased yields of peaches. The wise grower who cultivates this crop will give these results the serious consideration which their importance merits. Experience and the observation of practical tests will demonstrate to every grower the importance of fertilizing peaches for profit.

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A 5 year old Elberta peach orchard, near Williamson, N. Y., badly neglected until 1911 when owner applied per tree 15 lbs. fertilizer containing 2% Nitrogen, 8% Phosphoric Acid and 10% Potash. Photograph taken after 1912 crop was removed.



A peach orchard at Hilton, N. Y. 4 years old, variety Smock. Fertilized with 500 lbs. per acre of a mixture containing 8% Phosphoric Acid and 10% Potash

(Photographs by Courtesy of E. L. Markell, Ithaca, N. Y.)

Summary

Peach growers may expect the following results from the judicious application of a well balanced fertilizer to the peach orchard:

- (1) A marked increase in the yield of fruit.
- (2) Larger fruit of a better quality.
- (3) Improved shipping quality of product.
- (4) Increased vigor and healthiness of trees.
- (5) Early maturity of young trees which enables them to come into bearing at an earlier age than otherwise.
- (6) Prolonged bearing life beyond the average of unfertilized trees.
- (7) Early maturity of wood which enables the trees to endure winter exposure to better advantage.
- (8) Strengthened wood fiber, thereby lessening the tendency of the trees to break under a heavy strain of fruit yield.
- (9) Increased growth of vegetation where cover crops are grown.
- (10) Fertility of soil maintained.

USEFUL TABLES.

AVERAGE COMPOSITION OF POTASH SALTS.

Name of Salts.	Minimum Guaranteed Per Cent of Actual Potash.
A. Salts containing Chlorides:	
Muriate of Potash	48
Manure Salt	20
Kainit (crude salt)	12
B. Salts free from Chlorides:	
Sulfate of Potash.....	47
Sulfate of Potash-Magnesia.....	25

Approximate Amounts of Plant-Food Constituents Used in One Crop.

(VAN SLYKE)

Kind of Crop	Yield Per Acre	Trees Per Acre	Nitrogen	Phosphoric Acid (P ₂ O ₅)	Potash (K ₂ O)
Apples			Lbs.	Lbs.	Lbs.
Fruit	300 bu.	30	6.0	3.0	15.0
Leaves	1000 lbs.	30	10.0	1.5	3.5
New Wood	100 lbs.	30	0.5	0.2	0.3
Total			16.5	4.7	18.8
Peaches					
Fruit	400 bu.	100	22.2	11.0	45.5
Leaves	5300 lbs.	100	47.7	8.0	42.0
New Wood	1500 lbs.	100	8.6	2.0	2.5
Total			78.5	21.0	90.0
Pears					
Fruit	300 bu.	100	7.5	3.0	15.0
Leaves	2400 lbs.	100	16.8	2.9	9.6
New Wood	600 lbs.	100	1.8	0.6	1.5
Total			26.1	6.5	26.1
Plums					
Fruit	200 bu.	120	15.3	5.5	21.3
Leaves	2000 lbs.	120	15.2	3.5	16.0
New Wood	700 lbs.	120	3.5	1.5	2.0
Total			34.0	10.5	39.3
Quinces					
Fruit	200 bu.	160	12.0	5.5	25.0
Leaves	1500 lbs.	160	13.5	2.7	6.4
New Wood	400 lbs.	160	2.0	0.8	1.6
Total			27.5	9.0	33.0
Cherries	8000 lbs.	120	16.0	4.0	20.0
Blackberries	4000 qts.	...	11.0	3.0	12.0
Red Raspber's . . .	4000 "	...	10.5	4.5	12.0
Blackberries	3000 "	...	10.0	4.0	13.0
Strawberries	5000 "	...	7.5	3.0	12.5
Currants	3200 "	...	12.0	5.0	12.0
Gooseberries	3200 "	...	6.5	3.0	12.0
Grapes	6000 lbs.	..	9.0	6.0	18.0

USUAL DISTANCES FOR PLANTING FRUIT TREES AND VINES.

(In planting trees the greater distance should be given on the richer soils.)

Apples	20 to 30 feet each way.
Pears (Standard)	20 " 25 " " "
Pears (Dwarf)	12 " 15 " " "
Quinces	15 " " "
Peaches	18 " 24 " " "
Plums	15 " 20 " " "
Cherries	15 " 20 " " "
Figs	12 " 15 " " "
Japan Persimmons	15 " 20 " " "
Mulberries	20 " 25 " " "
Oranges (Sweet)	20 " 25 " " "
Oranges (Japanese)	12 " 15 " " "
Blackberries	6 by 4
Raspberries	6 " 3
Currants	5 " 3
Gooseberries	5 " 3
Strawberries (Hills)	36 x 18 inches
Strawberries (Matted rows)	48 x 12 "
Grapes	8 x 8 to 10 x 12 feet

FERTILIZING PEACHES

Interested peach growers who desire information about other crops may obtain a copy of the following agricultural books free of charge:

Potash in Agriculture.

Principles of Profitable Farming.

Farmers' Guide.

Truck Farming.

Plant Food.

Farmers' Note Book.

Experiments with Fertilizers.

Tropical Planting.

Potash Industry.

Cotton Culture.

Sugar Cane Culture.

Sugar Beet Culture.

Fertilizing Sugar Cane.

Tobacco Culture.

Fertilizing Tobacco.

Value of Swamp Lands.

Strawberry Culture.

Why the Fish Failed.

Orange Culture.

Fall Fertilizers.

Potash Pays.

State which one of the above-mentioned publications you desire, and it will be mailed to you free of charge.

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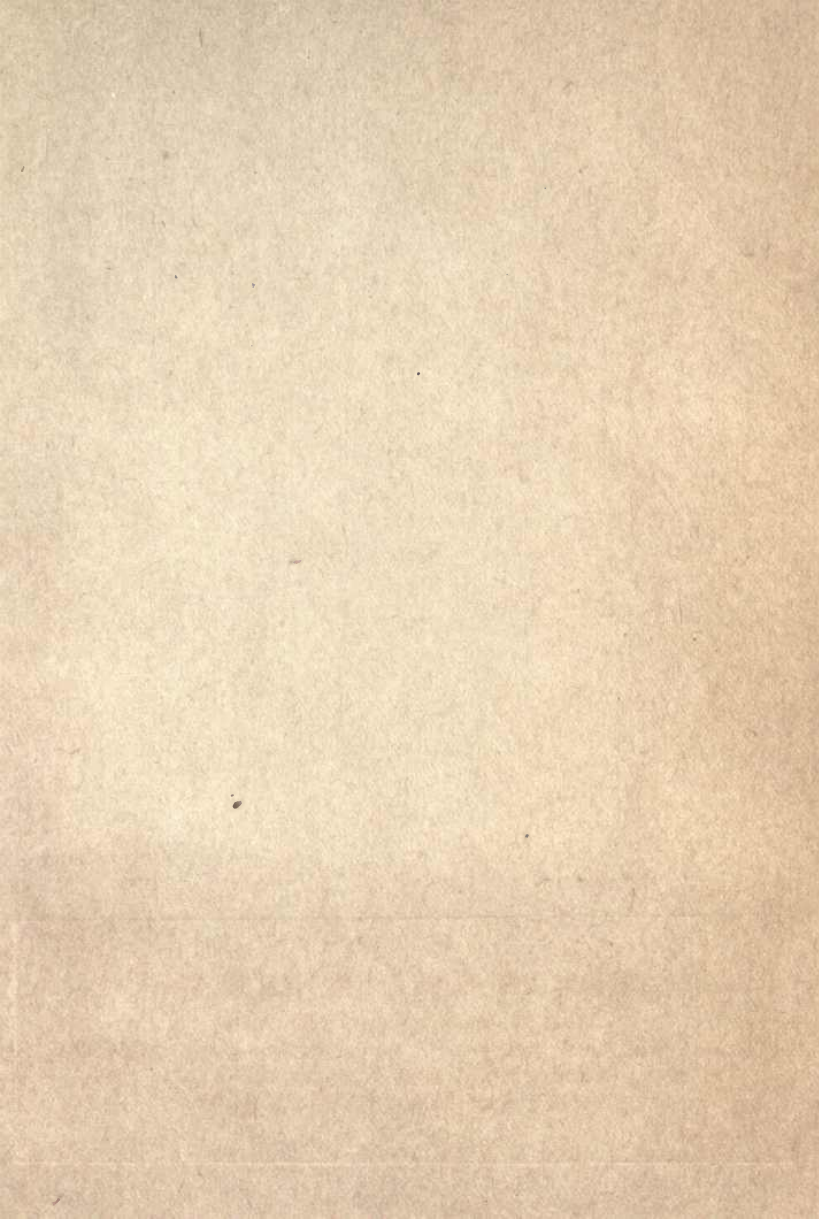
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